



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,780	09/12/2003	Nambi Seshadri	20220US02	5880
23446	7590	03/06/2009	EXAMINER	
MCANDREWS HELD & MALLOY, LTD			LERNER, MARTIN	
500 WEST MADISON STREET			ART UNIT	PAPER NUMBER
SUITE 3400			2626	
CHICAGO, IL 60661				

  

MAIL DATE	DELIVERY MODE
03/06/2009	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/660,780	SESHADRI, NAMBI	
	<b>Examiner</b>	<b>Art Unit</b>	
	MARTIN LERNER	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 12 January 2009.

2a) This action is **FINAL**.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1 to 12 and 19 to 27 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) 19 to 21 and 26 to 27 is/are allowed.

6) Claim(s) 1 to 12 and 22 to 25 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____ .	6) <input type="checkbox"/> Other: _____ .

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 to 3, 5 to 7, and 9 to 11 rejected under 35 U.S.C. 103(a) as being unpatentable over *Morris* in view of *McMullan, Jr. et al.*

Concerning independent claims 1, 5, and 9, *Morris* discloses a method, device, and system for speech recognition, comprising:

“receiving audio signals from a speech source” – system 100 captures any speech with speech input unit 104 (column 4, lines 15 to 19: Figures 1 and 2: Steps 202 and 204);

“receiving video signals from the speech source” – system 100 captures the user’s image with video input unit 102 (column 4, lines 15 to 19: Figures 1 and 2: Steps 202 and 204);

“converting at least one of the audio signals and the video signals into recognizable information” – system 100 interprets any verbal input using the speech recognition functions of multi-sensor fusion/recognition system 106; the speech recognition is supplemented by the visual information captured by video input unit 102,

such as any interpreted facial expressions (e.g., lip-reading) (column 4, lines 25 to 31: Figures 1 and 2: Step 206);

“implementing a task based on the recognizable information” – system 100 searches knowledge database 116, or additional resources such as the Internet, for a response to an objective question (column 5, lines 8 to 13: Figures 1 and 3: Step 310).

Concerning independent claims 1, 5, and 9, *Morris* discloses one embodiment where only image data from the video unit 102 is used, and the audio data from the speech input unit 104 is ignored for recognition purposes. (Column 3, Lines 24 to 27) *Morris* omits “detecting if the audio signals can be processed, wherein detecting if the audio signals can be processed comprises defining an error threshold, comparing a number of errors detected in the audio signal with the threshold, and determining that the audio signals can not be processed if the number of detected errors equals or exceeds a threshold” and “processing the audio signal if it is detected that the audio signals can be processed, and processing the video signals based on a detection that at least a portion of the audio signal cannot be processed”. However, *McMullan, Jr. et al.* teaches a digital audio muting system and method, where an error detection system has a programmable error sensitivity, and a digital audio data muting circuit mutes a digital audio transmission system when a large number of errors per unit time are detected in the received digital audio system. (Column 1, Lines 6 to 14) An error limit register stores a predetermined threshold value and a comparator compares a sum output of a counter with the predetermined threshold value from the error limit register. A disable signal is output when the sum of the counter exceeds the predetermined threshold.

(Column 4, Lines 5 to 12) The error muting system is used in conjunction with error correction in digital audio, video, speech, or other kinds of digital signal transmission systems to provide predictable error muting when the received digital signal has numerous data errors which cannot be corrected. (Column 2, Line 63 to Column 3, Line 5) Thus, *McMullan, Jr. et al.* provides for muting the audio when the number of errors are too high, so that only the video would be processed when it is determined that the audio cannot be processed. It would have been obvious to one having ordinary skill in the art to employ the error processing/muting system and method of *McMullan, Jr. et al.* in a multi-sensor fusion/recognition unit of *Morris* for a purpose of providing error muting when a received digital signal has errors which cannot be corrected.

Concerning claims 2, 6, and 10, *Morris* discloses that the speech recognition is supplemented by the visual information captured by video input unit 102, such as any interpreted facial expressions (e.g., lip-reading) ("video images of lip movements that coincide with the audio signals") (column 4, lines 27 to 31: Figures 1 and 2).

Concerning claims 3, 7, and 11, *Morris* discloses that multi-sensor fusion/recognition unit 106 receives image data and audio input at the same time (column 2, line 66 to column 3, line 9: Figure 1); implicitly, these signals "coincide" and are received "in parallel".

3. Claims 4, 8, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Morris* in view of *McMullan, Jr. et al.* as applied to claims 1, 5, and 9 above, and further in view of *Bakis et al.*

*Morris* does not expressly disclose a storage unit for storing the audio signals and the video signals to a destination source, and a transmitter for sending the audio signals and the video signals to a destination source. However, it is well known to operate biometric identification via a client/server network, where biometric data is stored on a server, and biometric data is collected locally but compared to stored biometric data on the server. *Bakis et al.* teaches an analogous art method and apparatus for recognizing the identity of individuals by a speaker recognition system and a lip classifier, where biometric attributes are pre-stored for later retrieval so that they may be compared. Further, a server is included for interfacing with a plurality of biometric recognition systems to receive requests for biometric attributes therefrom and transmit biometric attributes thereto. The server has a memory device for storing the biometric attributes. (Column 8, Line 47 to Column 9, Line 16) Objectives are to provide a significant increase in the degree of accuracy of recognition and to provide a significant reduction in fraudulent or errant access to a service and/or facility. (Column 2, Lines 50 to 56) It would have been obvious to one having ordinary skill in the art to store and send biometric attributes to a server (“a destination source”) as taught by *Bakis et al.* in a method, device, and system for combining audio and video signals of *Morris* for purposes of increasing accuracy of recognition and reducing fraudulent access.

4. Claims 22 to 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Morris* in view of *McMullan, Jr. et al.* as applied to claims 1 and 5 above, and further in view of *Suomela et al.*

*Morris* omits any description of the computer system for performing the multi-sensor fusion recognition as a laptop computer, a home computer, or a mobile phone, but it is well known that various types of computer systems are applicable for speech recognition and image processing. Specifically, *Suomela et al.* teaches a method for speech recognition, where a terminal may be a mobile phone, a desktop, or a laptop computer. (¶[0023]) An objective is to provide speech as an input to a terminal of an electronic device so that a user can operate the device while performing other tasks such as walking or driving a motor vehicle. (¶[0004]) It would have been obvious to one having ordinary skill in the art to implement the multi-sensor fusion recognition of *Morris* on a laptop computer or mobile phone as taught by *Suomela et al.* for a purpose of permitting a user to perform additional tasks while operating the device.

***Allowable Subject Matter***

5. Claims 19 to 21 and 26 to 27 are allowed.

***Response to Arguments***

6. Applicant's arguments filed 12 January 2009 have been considered but are moot in view of the new grounds of rejection.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

Lee et al. suggests a camera that communicates to the user with a red light that a user needs to be more distant from the camera and with a green light that the user needs to come nearer to the camera.

Hollier et al., Kiessling et al., Fujimura et al., Yoshizawa et al., Durand, and Biondo, Jr. disclose related art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARTIN LERNER whose telephone number is (571)272-7608. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Martin Lerner/  
Primary Examiner  
Art Unit 2626  
March 4, 2009